

FIG. 1a

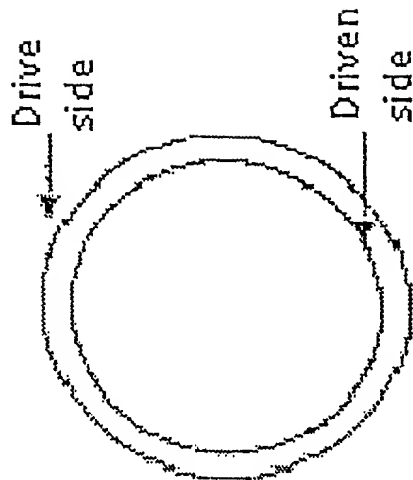


FIG. 1b

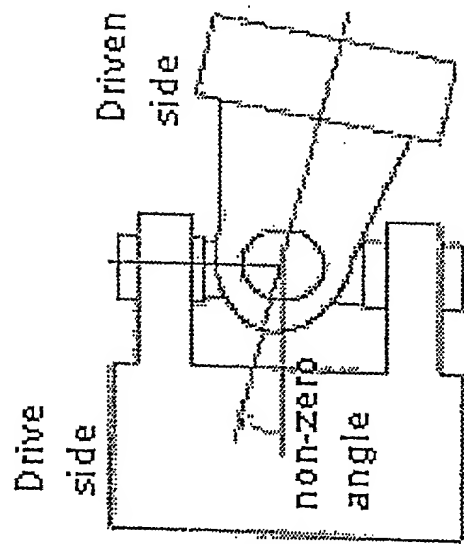


FIG. 2a

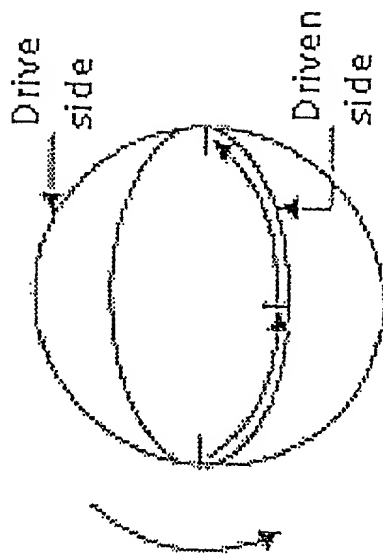


FIG. 2b

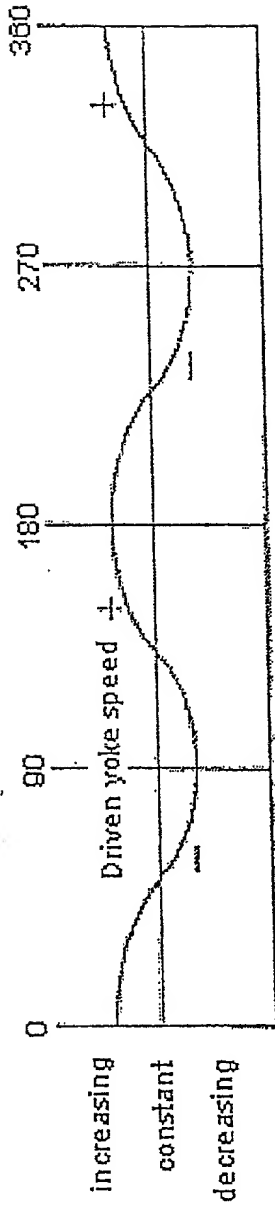


FIG. 3

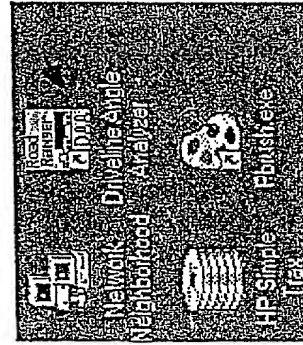


FIG. 4

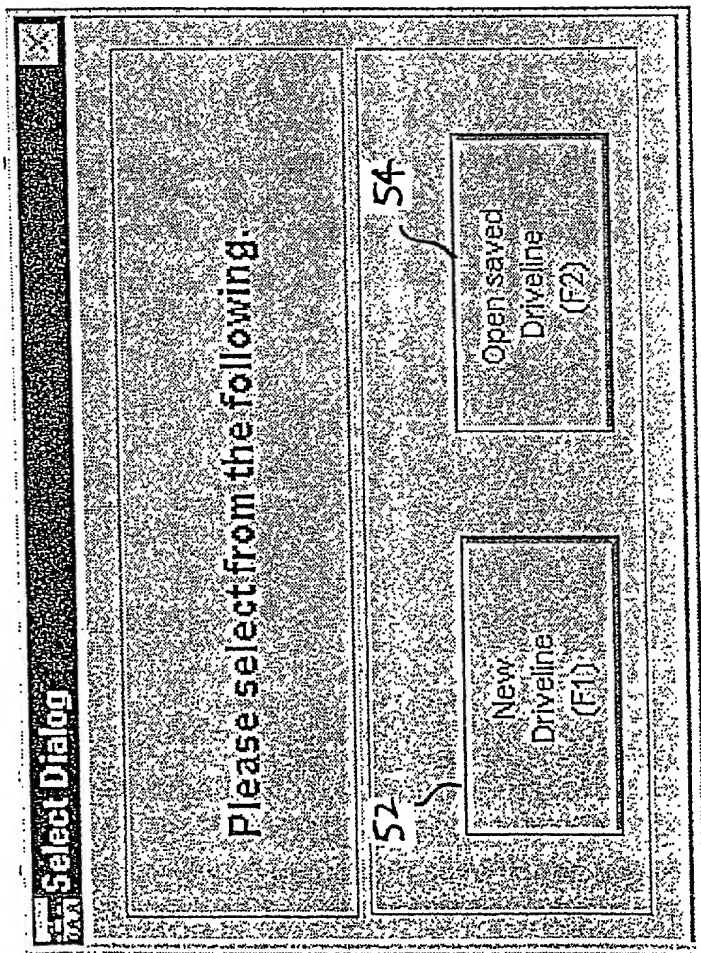


FIG. 5

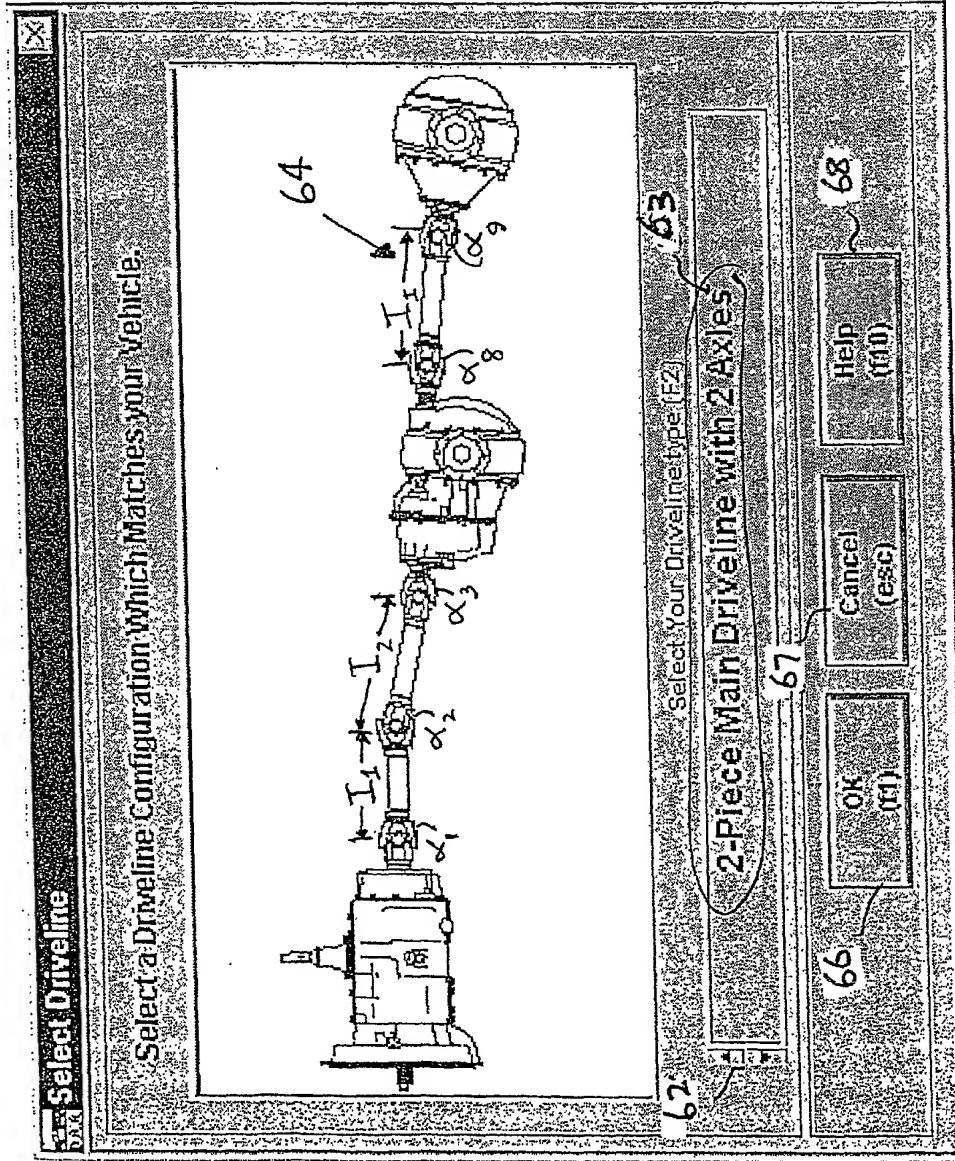


FIG. 6

70

DriveLine Angle Analyzer

File Help

Ready
Angle
Data

Enter Vehicle Information

Note: Part fields are required for initial calculations.

79

Truck Unit # (F-1)

Clutch Part #

Engine Make/Model #

Wheel Base

Steer Axle Tire Size

Drive Axle Tire Size

Main DriveLine Series

77

Interaxle DriveLine Series

Clutch Manufacturer

Clutch Size

Comments

78

Axle Manufacturer

<Select Axle Manufacturer>

D-Head Serial #

Re-Head Serial #

Vehicle Mileage

Vehicle Build Date

Tested By

71

72

73

74

75

76

New DriveLine

Open

Save

Print Worksheet

Information

Measurements

Enter Results

Directions

Help

Exit DriveLine

FIG. 7

Worksheet

DriveLine Angle Analyzer

Print

Before measuring Angles:

1. Click most and rear wheels
2. Place bars in NEUTRAL
3. Release parking brake

To Measure DriveLine Lengths:
Align the end of the bar with the axle end of the axle.

To Measure Component Angles:
For max angle (+) - The end of the bar is aligned with the axle end of the axle.

To check DriveLine Phasing:
Orient the plate & Zero degrees when the axle ends are aligned

Print

Cancel

Esc

82

#1 Prop shaft

Angle deg

Length in

Place (click on)

deg 50 deg

83

#2 Prop shaft

Angle deg

Length in

Place (click on)

deg 50 deg

84

Trans

Angle deg

85

D-Head

Angle deg

86

R-Head

Angle deg

Main DriveLine Series

| | | | | | |
|--------------------|----------------------|---------------------|---------------------|------------------|------------------|
| Truck Unit # | Chassis Manufacturer | Chassis Serial # | Chassis Description | Chassis Model # | Chassis Serial # |
| Truck Name | Chassis Serial # | Chassis Description | Chassis Model # | Chassis Serial # | Chassis Serial # |
| Truck Account # | Chassis Serial # | Chassis Description | Chassis Model # | Chassis Serial # | Chassis Serial # |
| Truck Manufacturer | Chassis Serial # | Chassis Description | Chassis Model # | Chassis Serial # | Chassis Serial # |
| Truck Model | Chassis Serial # | Chassis Description | Chassis Model # | Chassis Serial # | Chassis Serial # |
| VIN # | Chassis Serial # | Chassis Description | Chassis Model # | Chassis Serial # | Chassis Serial # |
| Truck Model # | Chassis Serial # | Chassis Description | Chassis Model # | Chassis Serial # | Chassis Serial # |
| Truck Serial # | Chassis Serial # | Chassis Description | Chassis Model # | Chassis Serial # | Chassis Serial # |

FIG. 8

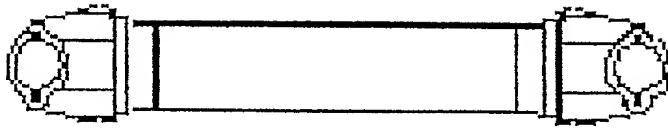


FIG. 9a

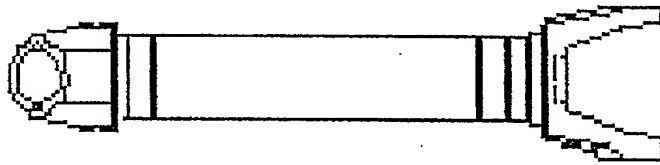


FIG. 9b

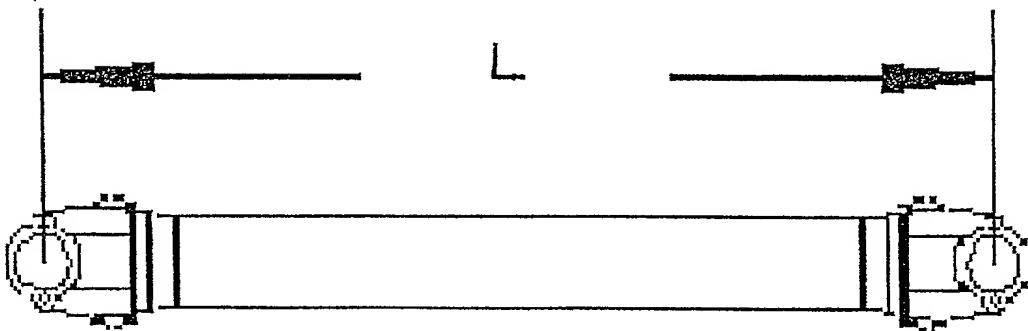


FIG. 10



FIG. 11a

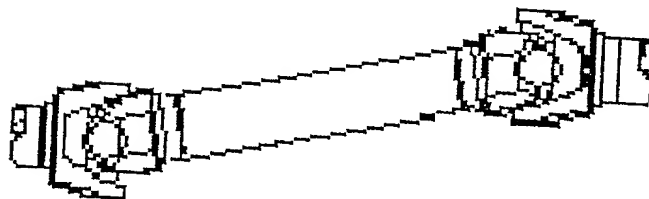


FIG. 11b

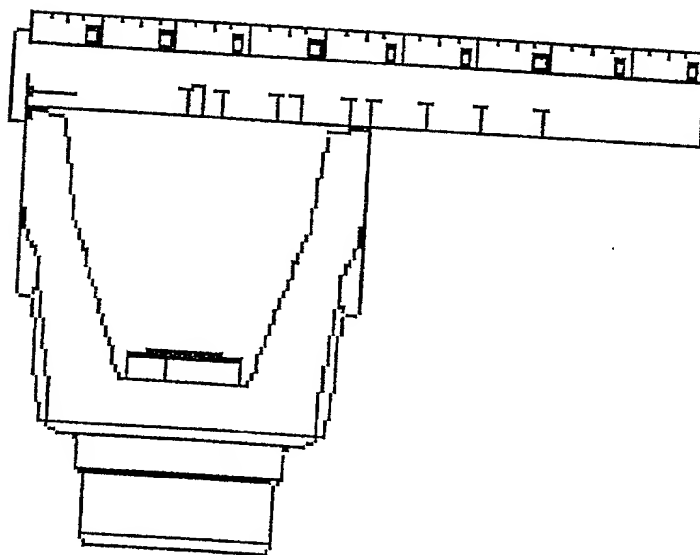


FIG. 12

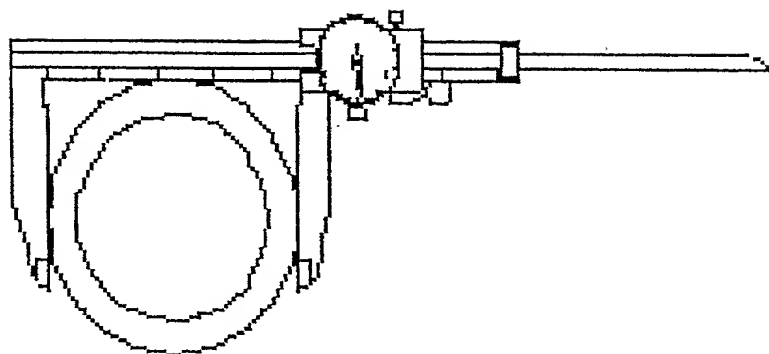


FIG. 13

Driveline Angle Analyzer

File Help

Max Drive Line RPM: 2100.00 RPM

Max Drive Line Inertia: 2.00 lbs

Max Drive Line Coast Inertia: 56.93 lbs

Trans to D head: 285.71 rad/sec

D head to R head: 1060.63 rad/sec

Overall: 1068.93 rad/sec

144 Fall

143

This vehicle has exceeded the recommended maximum (optional) acceleration of 1000 rad/sec². The vehicle OEM should be consulted for correct driveline angles and ride heights.

145

Max Engine RPM in Top Gear: 2100

Top Gear Ratio of Transmission: 1.00

Comments:

The user would then enter all the measurements enter on the worksheet into this screen.

Angles

Frame Angle: 0.00

Transmission: 1.00

#1 Prop Shaft: -3.00

#2 Prop Shaft: 3.00

D head Axle: -3.00

Inter Axle Shaft: 0.00

R head Axle: 9.00

Phase

Length (in)

Front Ride Height: 0.00

Back Ride Height: 0.00

Phase Angle: 0 deg

Phase Angle: 0 deg

Phase Angle: 0 deg

Phase Angle: 0 deg

Length: 24.00

Length: 24.00

Length: 15.00

Notes: Rex Fields is a qualified driveline technician.

Corrective Mode

Restore Baseline

Print Results

Directions

Help

Exit

New Drive Line F2

Open F3

Save F4

Print Worksheet F5

Information F6

Measurements F7

FIG. 14

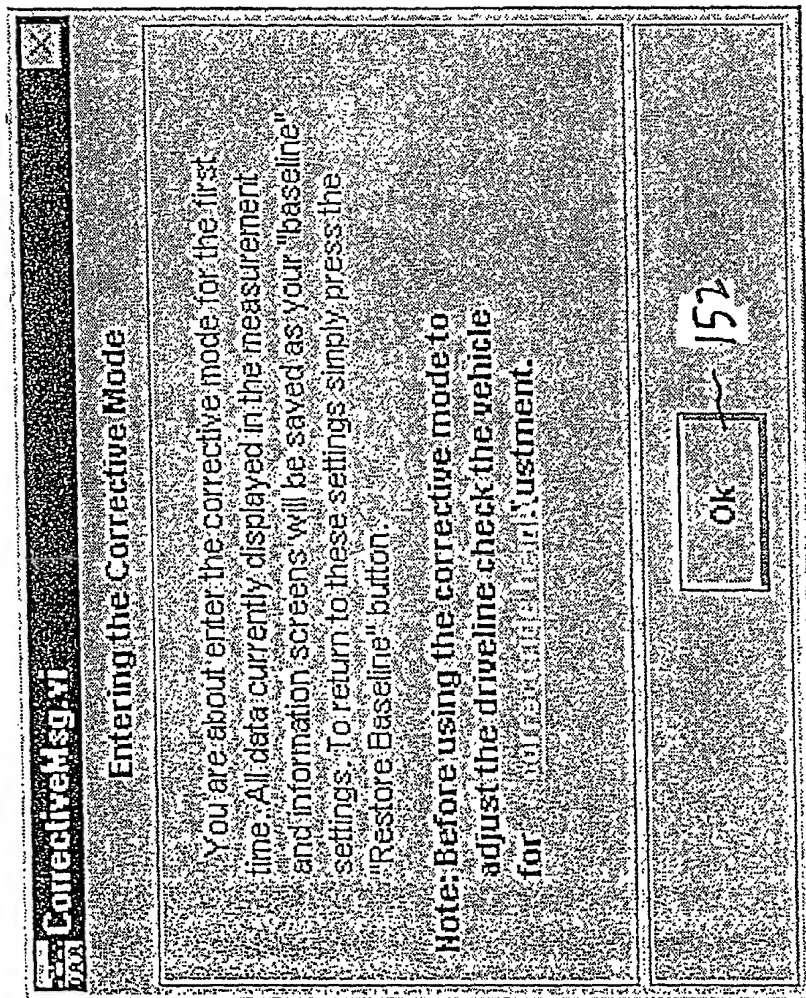


FIG. 15

Diveline Angle Analyzer

File Help

2-Piece Main Diveline with 2 Axes

Trans

+10deg

#1 Prop Shaft

-3.0deg Dpl

#2 Prop Shaft

+3.0deg Dpl

Dhead

-3.0deg

#3 Prop Shaft

+23.3deg Dpl

Rhead

+7.0deg

Max Driveline RPM: 2100.00 RPM

Drive Inertias: 27.25 in-lb

Coast Inertias: 25.04 in-lb

Trans to Dhead: 235.741 rad/sec2

Dhead to Rhead: 178.85 rad/sec2

Overall: 248.49 rad/sec2

Good

Angles

Frame Angle: 0.00

Transmission: 100

#1 Prop Shaft: -3.00

#2 Prop Shaft: 3.00

D head Axle: -3.00

Interaxle Shaft: 2.27

R head Axle: 7.00

Phase

Phase Angle: 0 deg

Phase Angle: 0 deg

Phase Angle: 0 deg

Phase Angle: 0 deg

Length (in)

Length: 24.00

Length: 4.00

Length: 34.87

Air Bag Height

Front Ride Height: 0.00

Back Ride Height: 0.00

Red Fields (required for height calculations)

Max Engine RPM Min Top Gear: 2100

Top Gear Ratio of Transmission: 1.00

New Driveline: E2

Open: E3

Save: E4

Print Worksheet: E5

Information: E6

Measurements: E7

Corrective Mode

ON: E8

Restore Baseline: E9

Print Results: E8

Directions: E9

Help: E10

Exit DAA: E10

Comments

The user would then enter all the measurements enter on the worksheet into this screen.

FIG. 16

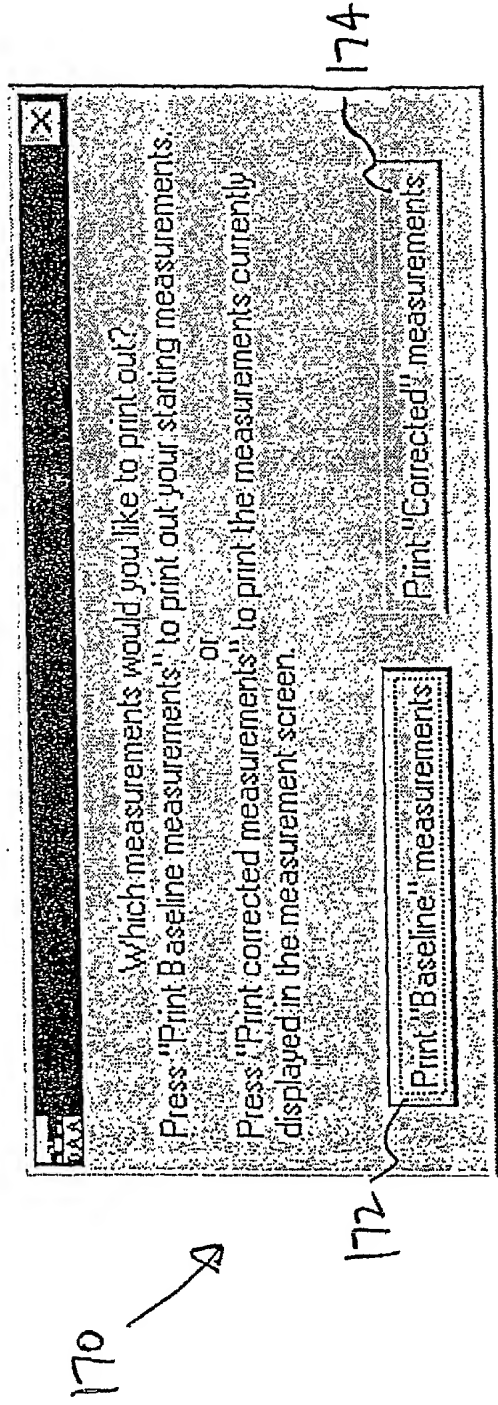



FIG. 17

Print Results

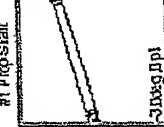
RoadScanner
From Time On The Road

Driveline Angle Analyzer


2-Piece Main Driveline with 2 Axles (Corrected)




Truck




#1 Prop Shaft



#2 Prop Shaft



Differential



R-Axis

Good

Vehicle Information:

| | |
|----------------------|-----------------------|
| Truck Unit # | APR |
| Part Name | Milling out/old steel |
| Part Location | Re |
| Truck Manufacturer | Isaf |
| Truck Model | 1970 |
| Truck Year | 1970 |
| Truck Serial # | 1111 |
| Chassis Manufacturer | Isaf |
| Chassis Model | 1111 |
| Chassis Year | 1970 |
| Chassis Serial # | 1111 |
| Engine Make/Model | Isaf |
| Engine Year | 1970 |
| Engine Serial # | 1111 |
| Wheel Size | 14.87 |
| Wheel Type | 14.87 |
| Spoke Size | 14.87 |
| Spoke Type | 14.87 |
| Spoke Serial # | 14.87 |
| Spoke Year | 14.87 |
| Spoke Serial # | 14.87 |
| Spoke Year | 14.87 |
| Spoke Serial # | 14.87 |
| Spoke Year | 14.87 |
| Spoke Serial # | 14.87 |
| Spoke Year | 14.87 |
| Spoke Serial # | 14.87 |
| Spoke Year | 14.87 |

Driveline Dimensions:

| | |
|---------------|-------|
| Frame Angle | 0.00 |
| Trans. Angle | 1.00 |
| #1 Prop Shaft | -3.00 |
| #2 Prop Shaft | 3.00 |
| Differential | -3.00 |
| Input Shaft | 2.27 |
| Rear Axle | 7.00 |

Driveline Results:

| | |
|-------------------|---------|
| Max Driveline RPM | 2100.00 |
| Drive Shaft | 27.25 |
| Coast Shaft | 25.04 |
| Trans. to D-Head | 236.71 |
| D-Head to R-Head | 78.88 |
| Overall Result | 248.48 |

Torsional Acceleration

| | |
|------------------|--------|
| Drive Shaft | 27.25 |
| Coast Shaft | 25.04 |
| Trans. to D-Head | 236.71 |
| D-Head to R-Head | 78.88 |
| Overall Result | 248.48 |

Driveline Angle Analyzer

| | |
|----------------|---------|
| Max Engine RPM | 2100.00 |
| In Top Gear | 1.00 |
| Top Gear Ratio | 1.00 |

Comment: The user would then enter all the measurements entered on the work.

Print (F5) Print (F6) Print (F7) Cancel (F8)

Driveline Angle Analyzer

| | |
|----------------|---------|
| Max Engine RPM | 2100.00 |
| In Top Gear | 1.00 |
| Top Gear Ratio | 1.00 |

Comment: The user would then enter all the measurements entered on the work.

Print (F5) Print (F6) Print (F7) Cancel (F8)

FIG. 19

Worksheet2.vi

Rock Hunter

Driveline Angle Analyzer

Trans Angle

Angle

Frame

Angle

E1 Prop shaft

Angle

Length

Phase (click on)

0 deg 90 deg

E2 Prop shaft

Angle

Length

Phase (click on)

0 deg 90 deg

E3 Prop shaft

Angle

Length

Phase (click on)

0 deg 90 deg

Before measuring Angles:

1. Check front and rear wheels
2. Phase trans in NEUTRAL
3. Release parking brake

To Measure Driveline Length:

All drive shaft lengths are measured from the yoke end caps centers.

To Measure Component Angles:

Positive angles (+) = The end closest to the front of the vehicle is higher than the end furthest from the front of the vehicle.

Negative angles (-) = The end closest to the front of the vehicle is lower than the end furthest from the front of the vehicle.

To check Driveline Phase:

Driveline Phase is 0 degrees when the yoke end caps are aligned

Driveline Phase is 90 degrees when the yoke end caps are not aligned

Print **Cancel** **F5**

Trans Serial #

Trans Manufacturer

Clutch Serial #

Clutch Manufacturer

Clutch Size

of Clutch Springs

Clutch Description

Engine Type

Wheel Base

Steer Axle Tire Size

Drive Axle Tire Size

Main Driveline Series

Interaxle Driveline Series

Auxiliary Trans Model #

Auxiliary Trans Serial #

Tested by

Auto Manufacturer

D-Head Serial #

R-Head Serial #

Vehicle Mileage

Vehicle Build Date

FIG. 20

X

Worksheet2.vi

Roadrunner

B-TECH

Driveline Angle Analyzer

6X6

S1 Prop shaft

| | |
|-------------|-----------|
| Angle | deg |
| Length | in |
| Phase Angle | clockwise |
| 0 deg | 90 deg |

S2 Prop shaft

| | |
|-------------|-----------|
| Angle | deg |
| Length | in |
| Phase Angle | clockwise |
| 0 deg | 90 deg |

S3 Prop shaft

| | |
|-------------|-----------|
| Angle | deg |
| Length | in |
| Phase Angle | clockwise |
| 0 deg | 90 deg |

| | |
|-------|-----|
| Front | deg |
| Angle | |

Diagram illustrating the driveline components and measurement points for a 6X6 vehicle. The diagram shows the front axle, three prop shafts (S1, S2, S3), and the rear axle assembly. Measurement points are indicated for angles and lengths at various joints and shafts.

S4 Prop shaft

| | |
|-------------|-----------|
| Angle | deg |
| Length | in |
| Phase Angle | clockwise |
| 0 deg | 90 deg |

| | |
|--------|-----|
| T-Case | deg |
| Angle | |

| | |
|--------|-----|
| D-Hood | deg |
| Angle | |

| | |
|--------|-----|
| R-Hood | deg |
| Angle | |

Before measuring Angles:

1. Check front and rear wheels

2. Place cars in NEUTRAL
3. Release parking brake

Measurement Directions:

To Measure Driveline Length:

All drive shaft lengths are measured from the yoke and cap centers.

To Measure Component Angles:

Positive angles (+) = Yoke and closest to the front of the vehicle is higher than the end furthest from the front of the vehicle.

Front of Vehicle

Negative angles (-) = Yoke and closest to the front of the vehicle is lower than the end furthest from the front of the vehicle.

To check Driveline Phase:

Driveline Phase is:
Zero degrees
when the yoke and caps
are aligned

Driveline Phase is
90 degrees
when the yoke and caps
are 90 aligned

| | | | |
|--------------------|---------------------|-----------------------------|--------------------|
| Truck Unit # | Truck Serial # | Steer Axle Tire Size | D-Hood Serial # |
| Floor Name | Clutch Manufacturer | Driver Axle Tire Size | T-Case Model # |
| Floor Account # | Clutch Size | Main Driveline Series | T-Case Serial # |
| Truck Manufacturer | # of Clutch Springs | Interaxle Driveline Series | Vehicle M Hogue |
| Truck Model | Clutch Description | Front Axle Driveline Series | Vehicle Build Date |
| VIN # | Engine Type | Axle Manufacturer | Tested by |
| Truck Model # | Wheel Base | | |

Print
File

Cancel
Esc

FIG. 21